

**ABSTRACT OF DISCLOSURE**

An electrolyte for a lithium secondary battery includes lithium salts, a non-aqueous organic solvent, and additive compounds. The additive compounds added to the electrolyte of the present invention decompose earlier than the organic solvent to form a conductive polymer layer on the surface of a positive electrode, and prevent decomposition of the organic solvent. Accordingly, the electrolyte inhibits gas generation caused by decomposition of the organic solvent at initial charging, and thus reduces an increase of internal pressure and swelling during high temperature storage, and also improves safety of the battery during overcharge.